

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

Element Code: PDRAN07020
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Cimicifuga arizonica* S. Watson
COMMON NAME: Arizona Bugbane
SYNONYMS: *Actaea arizonica*
FAMILY: Ranunculaceae

AUTHOR, PLACE OF PUBLICATION: Watson, S. 1885. Proceedings of the American Academy 20:352-353.

TYPE LOCALITY: Bill Williams Mountain, Coconino County, Arizona. Lemmon, J.G. 1884.

TYPE SPECIMEN: Isotype: ARIZ 11737. Lemmon, J.G. 1884.

TAXONOMIC UNIQUENESS: *Cimicifuga arizonica* is closely related to *C. elata*, which grows in Oregon, Washington, and British Columbia (Compton 1994).

DESCRIPTION: A perennial herb that may grow up to 2.0 m (6.5 feet) tall with large palmately, compound leaves. Leaf blade divided by three with segments also divided, ultimate segment more or less 3-lobed and toothed. Small, white, petal-less flowers on long, slender raceme, borne on long stems above the leaves with 50 -70 stamens of long filaments and form most of the visual display. The number of carpals per flower varies from one to four. Sepals fall off one day after opening. Fruits are follicles that are erect (slanting upward) and close to the stalk and have a bottle-brush appearance. The follicle splits on one side as it dries. The leaf has a maple leaf-like appearance.

AIDS TO IDENTIFICATION: *Cimicifuga arizonica* is easily confused with *Actaea rubra arguta*. The presence of a flowering stalk is required for positive identification. The flowering stalk of *C. arizonica* is a long, narrow spike; flowers lack petals and fruits, and are dehiscent (longitudinally opened). The flowering stalk of *Actaea* is short with an open panicle. Fruits are borne perpendicular to the stalk with red or white shiny berries. The texture of the leaves also differs. Leaf veins of *Actaea* are embedded in the leaf as if in grooves. *C. arizonica* is a larger plant, and will form large stands. *Actaea* may be shorter and is usually found in small groups. Young plants can look like young maples.

ILLUSTRATIONS: Line drawing of plant, leaves and flower (USFWS).

TOTAL RANGE: Central Arizona.

RANGE WITHIN ARIZONA: Bill Williams Mountain (Kaibab National Forest), tributaries to Oak Creek, and West Clear Creek (Coconino National Forest), Coconino County; Workman Creek and Cold Springs Canyon in the Sierra Ancha Mountains (Tonto National Forest), Gila County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial

PHENOLOGY: Flowers July - August, after summer rains; fruits August - September.

BIOLOGY: Social bees and especially bumblebees (*Bombus occidentalis*, *Separatobombus morrisoni*, and *Probombus huntii*) are almost exclusively the pollinators. Flowers abort if adverse pollination conditions (rain, no pollinators) exist. Plants senesce in the late fall. Since above-ground parts die back each winter making it difficult to find, surveys for this plant should be conducted during the flowering/fruited season.

HABITAT: Most of the known populations are located along moist, shady canyon bottoms and lower canyon slopes (at times under overhangs) in association with Douglas fir, white fir, bigtooth Rocky Mountain maple, and sometimes aspen with a diverse herbaceous understory and lots of duff. Some populations are found on mountains at seeps and springs, in drainages and on shaded north slopes. Grows in moist, loamy soil of ecotone between coniferous forest and riparian habitat; stays close to ecotone and appears to require deep shade from forest or riparian overstory. Barb Phillips (1993a) stated that the Bill Williams site is not typical habitat.

ELEVATION: 4,700 - 8,800 ft (1434 - 2684 m).

EXPOSURE: Heavily shaded areas, especially along canyon bottoms and lower canyon slopes.

SUBSTRATE: Rich humus

PLANT COMMUNITY: Rocky Mountain Riparian Deciduous Forest

POPULATION TRENDS: Gobar (1990) and Farmer (1994) stated that the population at Workman Creek Falls, Sierra Ancha Mountains, appears to be stable or increasing. This site attains little use by insects and wildlife, no damage from livestock no apparent collecting activities occur. Incidental trampling has taken place due to hikers accessing the falls. Monitoring of populations on Coconino and Kaibab National Forests show leaf numbers ranging from 1 -17. All plants sampled in 1990 (Warren 1991) were present in 1995, with five additional young plants found (Phillips et al 1995).

The James Canyon population (an isolated population in a rugged canyon) had the highest reproductive percentages for all sizes of plants (Phillips et al. 1996). Phillips (1993b) stated that two to three sites were completely eliminated in West Fork of Oak Creek Canyon due to scouring by heavy rains during the winter of 1993. One new population was found further up the canyon. Sycamore Canyon was searched and no populations were found. West Clear Creek population has a disease, cause unknown, which creates brittle stems that break off the plant when touched. Phillips (pers comm, 1990) states *C. arizonica* occurs along "miles" in West Fork of Oak Creek Canyon.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1999)
[C USDI, FWS 1996]
[C1 USDI, FWS 1980]

STATE STATUS: Highly Safeguarded (ARS 1993)

OTHER STATUS: Forest Service Sensitive (USDA, FS Region 3 1999)
[Forest Service Sensitive USDA, FS Region 3 1990]

MANAGEMENT FACTORS: Major threats include general disturbance to riparian areas, together with recreation, off-road vehicle use and grazing by livestock. Water transfers may also be a threat. A small number of populations and a small amount of area covered by each population render this species vulnerable. Some populations are not readily accessible.

Implementation of Management Plans; maintain sufficient shade; eliminate loss of plants due to trampling; do not construct new trails through or near populations; no populations should be traded away from federal ownership during land exchanges; secure water rights; water diversions (if any) should be done below populations.

CONSERVATION MEASURES TAKEN: Monitoring plots have been established for Bill Williams Mountain site by Kaibab National Forest in 1988, and Renee-Galeano-Popp. Workman Creek population is being monitored in addition to several Coconino National Forest populations. Ninety-five percent of known populations receive some protection by Wilderness Area designation. Conservation assessments and strategies have been completed on the Coconino, Kaibab and Tonto National Forests.

SUGGESTED PROJECTS: Conduct additional surveys; continue monitoring populations, assess impacts of recreation.

LAND MANAGEMENT/OWNERSHIP: All known populations are located within the Coconino, Kaibab and Tonto National Forests.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION:

Revised: 1990-11-21 (SR)
 1992-09-21 (BKP)
 1993-04-20 (SSS)
 1997-04-08 (BGP)
 1997-04-22 (SMS)
 1997-11-12 (SMS)
 1999-12-20 (DJG)
 2008-02-19 (CAS)
 2008-02-28 (TFH)

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